



921

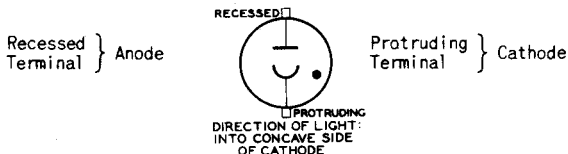
921

GAS PHOTOTUBE

CARTRIDGE TYPE WITH S-1 RESPONSE

DATA**General:**

Spectral Response	S-1
Wavelength of Maximum Response.	8000 $\pm$ 1000 Angstroms
Cathode:	
Shape	Semi-Cylindrical
Minimum Projected Length*	7/8"
Minimum Projected Width*	1/2"
Direct Interelectrode Capacitance	1.0 μ mf
Overall Length.	1-21/32" $\pm$ 1/16"
Seated Length	1-13/32" $\pm$ 1/32"
Length, Cathode Center to plane A-A' (See Outline)	11/16" $\pm$ 1/16"
Maximum Diameter.	0.890"
Mounting Position	Any
Terminal Caps	See Outline

BOTTOM VIEW**Maximum Ratings, Absolute Values:**

ANODE-SUPPLY VOLTAGE (DC or Peak AC)	90 max.	volts
PEAK CATHODE CURRENT	10 max.	μ amp
PEAK CATHODE-CURRENT DENSITY.	100 max. μ amp/sq. in.	
AVERAGE CATHODE CURRENT ^o	3 max.	μ amp
AMBIENT TEMPERATURE	100 max.	$^{\circ}$ C

Characteristics:

	<u>Min.</u>	<u>Average</u>	<u>Max.</u>	
Dark Current at 90 Volts.	-	-	0.1	μ amp
Sensitivity:				
At 8000 Angstroms	-	0.0135	-	μ amp/ μ watt
Luminous: [▲]				
At 0 Cycles	75	135	205	μ amp/lumen
At 5000 Cycles.	-	119	-	μ amp/lumen
At 10000 Cycles	-	108	-	μ amp/lumen
Gas Amplification Factor.	-	-	10	

* On plane perpendicular to indicated direction of incident light.

^o Averaged over any interval of 30 seconds maximum. Average current may be doubled when anode-supply voltage is limited to 70 volts.[▲] Measured under conditions specified on sheet "PHOTOTUBE SENSITIVITY and SENSITIVITY MEASUREMENTS", at the front of this Section.

← Indicates a change.



921

GAS PHOTOTUBE

Minimum Circuit Values:

DC Load Resistance:

With anode-supply voltage of 70 volts or less:

For dc currents { above 3 μ amp . . . 0.1 . . . megohm
below 3 μ amp . . . No Minimum

With anode-supply voltage of 90 volts:

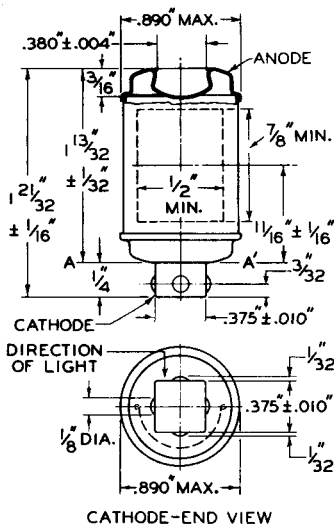
For dc currents	{	above 2 μ amp	. . . 2.5	. . . megohms
		below 2 μ amp	. . . 0.1	. . . megohm

SPECTRAL-SENSITIVITY CHARACTERISTIC
of Phototube having S-1 Response
and

FREQUENCY-RESPONSE CHARACTERISTICS of Gas Phototubes

are shown at the front of this Section

AVERAGE ANODE CHARACTERISTICS
of Type 921 are the same
as those shown under Type 930



92CM-4789R4



921

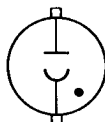
921

GAS PHOTOTUBE

CARTRIDGE TYPE WITH S-1 RESPONSE

*For relay applications***DATA****General:**

Spectral Response.	S-1
Wavelength of Maximum Response	8000 $\pm$ 1000 angstroms
athode:	
Shape.	Semicylindrical
Minimum projected length*.	7/8"
Minimum projected width*.	1/2"
Direct Interelectrode Capacitance.	1 μ f
Overall Length	1-21/32" $\pm$ 1/16"
Seated Length.	1-13/32" $\pm$ 1/32"
Length from Center of Useful Cathode Area to Plane A-A' (See Dimensional Outline).	11/16" $\pm$ 1/16"
Maximum Diameter	0.890"
Weight (Approx.)	0.4 oz
Mounting Position	Any
Terminals:	
Recessed cap	JETEC No. J1-23
Protruding cap	JETEC No. J1-24
Basing Designation	2AQ

Recessed } Anode
CapProtruding } Cathode
CapDIRECTION OF LIGHT:
INTO CONCAVE
OF CATHODE**Maximum Ratings, Absolute Values:**

ANODE-SUPPLY VOLTAGE (DC or Peak AC)	90 max.	volts
AVERAGE CATHODE-CURRENT DENSITY ^o	30 max.	μ amp/sq. in.
AVERAGE CATHODE CURRENT ^o	3 max.	μ amp
AMBIENT TEMPERATURE.	100 max.	$^{\circ}$ C

Characteristics, At 90 Volts on Anode:

	Min.	Median	Max.	
Sensitivity:				
Radiant, at				
8000 angstroms	-	0.012	-	μ amp/ μ watt
Luminous: [▲]				
At 0 cps	75	135	205	μ amp/lumen
At 5000 cps.	-	119	-	μ amp/lumen
At 10000 cps	-	108	-	μ amp/lumen
Gas Amplification Factor.	-	-	10	
anode Dark Current				
at 25 $^{\circ}$ C.	-	-	0.01	μ amp

* On plane perpendicular to indicated direction of incident light.

O, ▲: See next page.

← Indicates a change.

Minimum Circuit Values:

With anode-supply voltage of 70 or less 90 volts

DC Load Resistance:

For dc currents above

3 μ amp 0.1 min. - megohm

For dc currents below

3 μ amp	0 min.	-	megohm
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For dc currents above

2 μ amp	-	2.5 min. megohms
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For dc currents below

2 μ amp - 0.1 min. megohm

0 Averaged over any interval of 30 seconds maximum. This value may be doubled when anode-supply voltage is limited to 70 volts.

▲ For conditions where the light source is a tungsten-filament lamp operated at a color temperature of 2870°K. A dc anode supply of 90 volts and a 1-megohm load resistor are used. For the 0-cycle measurements, a light input of 0.1 lumen is used. For the 5000- and 10000-cycle measurements, the light input is varied sinusoidally about a mean value of 0.015 lumen from zero to a maximum of twice the mean.

SPECTRAL-SENSITIVITY CHARACTERISTIC of Phototube having S-I Response and

FREQUENCY-RESPONSE CHARACTERISTICS of Gas Phototubes

are shown at the front of this Section

AVERAGE ANODE CHARACTERISTICS

for Type 921 are the same as those shown for Type 930

